



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE NORTHERN RAILROADS AND THE CIVIL WAR¹

The opening of the civil war found the railroads fully developed to meet the needs of the government. In the states north of the Ohio and east of the Mississippi, with the exception of Michigan and Wisconsin, all the main lines were completed and in operation. In the east the great trunk lines, the New York Central, the Erie, the Pennsylvania, had begun to consolidate and to absorb the smaller roads. Only further consolidation, the addition of small branch and connecting lines, and the laying of additional trackage on the main lines were needed to complete the railroad system as it is today.

So at least it would appear from a casual survey of railroad maps of 1861 and 1918. There were, however, some very decided differences between the railroads of the war decade and those of the present. In the first place, there was little uniformity of gauge. In New England the 4' 8½" gauge was almost universal. The same gauge was common in Indiana and Illinois. In Ohio, however, 4' 10" was the rule, while in the middle states it varied with the different systems. There were in all in the northern states at least seven different gauges. The result was that goods had to be re-shipped at each change of gauge, a delay which could only be avoided by the use of an additional rail or an adjustable car whose wheels could be shifted.

Then, too, there was little uniformity in running time. Each road ran its trains by the clock in its principal depot, an arrangement which, since standard time had not been developed, was confusing in the extreme to the uninformed traveller. *Appleton's railroad guide* attempted to provide a remedy by means of a chart showing the relative time in the principal cities of the country.²

¹ This article aims to treat the railroads north of the Ohio and east of the Mississippi rivers in their relation to the civil war. The roads located in regions which were the seat of continued military operations are omitted because they are more properly associated with the military railroads operated by the United States government.

² *Appletons' railway and steam navigation guide* (New York, 1859), 27.

In addition to the lack of uniformity in time and gauge, there were a number of obstacles to rapid and efficient transportation. Most of the roads, particularly in New England and regions remote from the coal fields, still used wood as fuel for their engines. The Hartford, Providence and Fishkill railroad as late as 1867 did not have a single coal burning locomotive.³ The larger roads, however, were rapidly adapting their engines to the use of soft coal; and anthracite was being tried.⁴ The smoke and sparks from the wood-burning engines gave the principal cities just ground for requiring the companies to draw their trains by horse power after entering the city, another hindrance to rapid transportation.⁵ Then, too, all the smaller roads ran on a single track. Most of the larger roads had begun the construction of a second track, but in no case was it completed the entire length of the road. The Pennsylvania railroad, which was one of the leading roads in this and other respects, had 262 miles of double track on 331 miles of road in 1861.⁶ Not all the rivers were bridged, so that the cars were frequently transported by ferries which were sometimes impeded by ice.⁷

As might be expected, these weaknesses did not tend to develop speed in the civil war railroads. The highest speed claimed by any road in New York state was forty-three miles an hour, attained by the express trains of the Hudson River railroad when in motion. Including stops, the speed was thirty-seven miles an hour.⁸ This was exceptional; the average speed of an ordinary passenger train in New York state was twenty miles and the

³ *Annual report of the Rhode Island railroad commissioners made to the legislature* (Providence, 1868), 42.

⁴ *Report of the president and managers of the Philadelphia and Reading railroad to the stockholders January 14, 1861* (Philadelphia, 1861), 22; *Boston Commercial Bulletin*, February 28, 1863, reports a hard coal burner being constructed for the Central railroad of New Jersey.

⁵ *Report of the directors of the Boston and Maine railroad to the stockholders September 13, 1854* (Boston, 1854), 8; *Boston Commercial Bulletin*, June 20, 1863.

⁶ *Fourteenth annual report of the board of directors of the Pennsylvania railroad to the stockholders, February 4, 1861* (Philadelphia, 1861), 53.

⁷ On the line between New York and Baltimore, ferries were used to cross both the Delaware and Susquehanna rivers. *Reports of the house of representatives*, 37 congress, 3 session, no. 63, p. 2.

⁸ *Annual report of the state engineer and surveyor of the state of New York and of the tabulations and deductions from the reports of the railroad corporations* (Albany, 1861), 360.

average speed of a freight train in motion fourteen.⁹ In Massachusetts, there were freight trains running as slow as seven miles an hour.¹⁰

Some of the smaller roads were in a bad state. The Cincinnati, Wilmington and Zanesville is a good example of a poorly managed road. Of all its engines only three were in order. At Zanesville it had no freight house and received and discharged all freight in the street with the result that in wet weather business was entirely suspended. The accounts were not well kept. There were no proper files of letters. The employees, at one time, had four months pay coming to them.¹¹

With all these weaknesses the transportation system, with perhaps a single exception, proved adequate to the needs of the government. It not only furnished transportation for troops and supplies but at the same time it shipped to the eastern ports the food products of the northwest destined for European consumption. All this was done without overburdening the railroads. Why?

In the first place, there was a fairly even distribution of shipping. The railroads running north and south were depended upon for government transportation while those running east and west carried the agricultural products of the west to the eastern ports. In no case was there concentration on any one line or to any one port. In the one instance where the entire burden was placed upon a single line of road, that line proved inadequate: in the winter of 1861 and 1862, when the confederates blockaded the Potomac, the roads connecting New York with Washington proved unequal to the task of transporting all the necessary supplies.¹² Again, when the Potomac was blocked by ice in January, 1864, the attempt was made to bring all supplies into Washington by rail. After a week of the blockade, the chief quartermaster of the Washington depot reported that he had received by railroad up to that time less than twenty cars of forage

⁹ *Ibid.*, 326.

¹⁰ *Returns of the railroad corporations in Massachusetts, 1860, together with abstracts of the same* (Boston, 1861), 3.

¹¹ *Report of the Cincinnati, Wilmington and Zanesville railroad company January 1st, 1857* (New York, 1857), 61-66. For a more detailed description of the condition of the northern railroads at this time see Carl R. Fish, "The northern railroads, April, 1861," in *American historical review*, 22: 778-793.

¹² *New York Semi-Weekly Tribune*, March 4, 1862.

while the army required seventy-four carloads of grain and three hundred and seventy-five carloads of hay, daily. The situation was relieved only by a rise in the temperature and by the breaking up of the ice.¹³

It was indeed only owing to the fact that a very large share of the transportation of supplies and troops was done by water that the railroads proved as generally adequate as they did. In 1864, the quartermaster reported that the government owned and employed on the coast a fleet of thirty-nine ocean steamers, forty-five river and bay steamers, twenty steam tugs, two barks, two brigs, twenty-one schooners, and twenty-nine barges with an aggregate burden of 43,729 tons. In addition, there was a chartered fleet of 158,694 tons burden.¹⁴ In the west, also, a large portion of the transportation was by water. The following figures from the report of Colonel Charles Parsons, who was in charge of transportation at St. Louis, show the relative use of rail and water in that district for the year ending June 30, 1863: subsistence, ordnance, quartermaster's, and medical store transported by rail totalled 153,102,100 pounds, by river 337,912,363 pounds; troops by rail 193,023, by river 135,909.¹⁵

At the close of the war, when the troops were sent home to their rendezvous for disbanding, it was recommended by General Meigs that water transportation be used wherever possible since he considered it both cheaper and more comfortable for the soldiers.¹⁶ It seems clear that water was an important factor in the transportation problems of the war and that the railroads still remained complementary to the older forms of transportation.

Still another reason why the railroads proved adequate to the situation was the fact that they had been overdeveloped in the previous decade and at the opening of the war were not operating to full capacity. This is clearly brought out by the fact that, although their business increased enormously during the war, the railroads were able to handle it without a proportional increase in rolling stock. For example, the earnings of the

¹³ *War of the rebellion: a compilation of the official records of the union and confederate armies* (Washington, 1880-1901), third series, 4: 48.

¹⁴ *Ibid.*, third series, 1: 890.

¹⁵ *Ibid.*, first series, 3: part 1, 707.

¹⁶ *Ibid.*, third series, 4: 302.

Pennsylvania railroad jumped from five million dollars in 1860 to seventeen millions in 1865; while the rolling stock, which had included 205 engines, 154 passenger cars, and 2,047 freight cars in 1860,¹⁷ had only been increased to 368 engines, 150 passenger cars, and 4,842 freight cars.¹⁸ Similarly, the New York Central doubled its earnings with an increase of only forty-two engines.¹⁹ The aggregate rolling stock of all the railroads in the state of Pennsylvania in 1860 consisted of 623 engines, 410 passenger cars, 6,028 freight cars.²⁰ In 1865, it consisted of 1,519 engines, 700 passenger cars, and 15,288 freight cars.¹² The aggregate receipts had advanced from twenty-one to sixty-five million dollars.²² In each of these instances, with triple the business, it was only necessary approximately to double the number of engines and freight cars, clearly showing that the roads were not being used to capacity at the beginning of the war.

As might be expected, since the railroads proved adequate to the situation, the government did not exercise any real supervision over them. The act of January 31, 1862, however, gave the president the authority to take military possession of all the railroads in the United States, and on May 25 General Meigs issued an order taking such possession and ordering the railroads "to hold themselves in readiness for the transportation of troops and munitions of war" to the exclusion of all other business.²³

Notwithstanding this order, actual control was exercised only in the regions where military operations required it. A message of Stanton to Vice President Scott of the Pennsylvania railroad, August 19, 1862, is characteristic: "The urgent exi-

¹⁷ *Reports of the several railroad companies whose roads lie in whole, or in part, within the limits of Pennsylvania, communicated by the auditor general to the legislature January 16, 1861* (Harrisburg, 1861), 102.

¹⁸ *Reports of the several railroad and canal companies of Pennsylvania for the year 1865 communicated by the auditor general* (Harrisburg, 1865), 416.

¹⁹ *Annual report of the engineer and surveyor of New York state, 1861* (Albany, 1861), 149, 159; *ibid.*, 1866 (Albany, 1866), 378, 384.

²⁰ *Reports of the several railroad companies whose roads lie in whole, or in part, within the limits of Pennsylvania, communicated by the auditor general to the legislature January 16, 1861*, 165.

²¹ *Reports of the several railroad and canal companies of Pennsylvania for the year 1865, communicated by the auditor general*, 438-440.

²² *Ibid.*, 458.

²³ *War of the rebellion: a compilation of the official records of the union and confederate armies*, third series, 2: 69.

gency requires that all railroad power and business should be devoted exclusively to the transportation of troops this week. Will you be so good as to give it your attention.”²⁴ This method was apparently satisfactory, for General Meigs reported that the services required by the government had been performed “zealously and satisfactorily.”²⁵

In some cases, the government did take actual control. The thirty miles of road from Hanover Junction to Gettysburg was operated as a military road from July 9 to August 1, 1863, for the removal of wounded soldiers. During the occupation about fifteen thousand five hundred wounded men were transported over this line. The equipment and men were furnished from the military roads of Virginia.²⁶

In the case of the railroads between New York and Washington, which, as has been stated, proved inadequate in an emergency, the government, or more strictly congress, attempted to put pressure upon them by threat of adding a competing line. This proposal immediately aroused the wrath of these roads. The New Jersey railroad and transportation company asserted that the demands of the government had been met with promptness and assiduity, that a number of troops had been carried without payment and that “associated capital invested in public works is not to be employed as a charity but is a trust, the use of which calls for remuneration.”²⁷ The state directors of the Camden and Amboy railroad of New Jersey said that the construction of the proposed road would release that road from its obligations to the state and so should be opposed by the state. They thought that the courtesy due a sovereign state demanded that a power of this doubtful character should not be exercised and most certainly could not be delegated to third parties. This feature, to their mind, created a strong “suspicion that there are other ingredients mingled in the movement besides those of devotion and regard to the national welfare.”²⁸

Congress went so far as to appoint a select committee on the

²⁴ *Ibid.*, third series, 2: 409.

²⁵ *Ibid.*, third series, 2: 795.

²⁶ *Ibid.*, third series, 5: 976.

²⁷ *Reports of the directors of the New Jersey railroad and transportation company to the stockholders* (Newark, N. J., 1861), 6.

²⁸ *Annual report of the state directors of the Delaware and Raritan canal and Camden and Amboy railroad companies for the year 1863* (Trenton, 1864), 7.

subject. The committee reported favorably, alleging that the present communication was inadequate, that there were three breaks in the line, one at Baltimore, one at Susquehanna and one at Philadelphia, causing a delay of at least two and one-half hours, and that the fares for passengers and freight were twenty-five per cent higher than for an equal distance on other roads. Private enterprise and capital existed ready to start construction as soon as government sanction and authority was received.²⁹ If the proposed step had been taken, it might have led to an earlier recognition of the necessity of national regulation of railroads, though it would certainly have stirred up a great deal of active hostility.

One important problem in the relationship between the railroads and the government was the question of the rates to be paid by the government for services rendered by the roads. Colonel Thomas A. Scott, who had been appointed by Cameron in the early part of the war to take charge of the government railways, issued directions to be observed in making settlements with railroads. Passengers were to be carried at the rate of two cents per mile per person. Equipment, munitions, and supplies accompanying troops were to be paid for at first class local rates. Other goods were to be carried at local rates according to classification by the road. Estimates of what these rates should average were appended to the order.³⁰

The Illinois Central, which was a land grant railroad, was on a different basis. The directors telegraphed to Secretary of War Cameron April 26, 1861 to the effect that they were ready at any time to set aside the regular business and afford the government every facility. As regarded rates, they said that they would keep an account of the service rendered "and leave the adjustment of the compensation for the use of its rolling stock to be arranged in the future."³¹ An arrangement was made

²⁹ *Reports of the house of representatives*, 37 congress, 3 session, no. 63.

³⁰ *War of the rebellion: a compilation of the official records of the union and confederate armies*, third series, 1: 325. The two cent rate for passengers was less than the rates usually charged which averaged on the roads in Pennsylvania two and a half or three cents a mile. *Reports of the several railroad companies whose roads lie, in whole or in part, within the limits of Pennsylvania, communicated by the auditor general to the legislature January 16, 1861.*

³¹ *War of the rebellion: a compilation of the official records of the union and confederate armies*, third series, 1: 121.

with this road by which the government was charged one-third less than other patrons, this discount representing the right of the government to use the roadway as provided in the charter.³²

The only evidence of any attempt on the part of the railroads to defraud the government or to demand extortionate rates was in the case of the roads between Baltimore and New York. Cameron reported to the president that six dollars had been charged for the transportation of each soldier over that route and, as this seemed extravagant, an arrangement had been made by which the troops were taken via Harrisburg for four dollars, a method which was said to have brought the other roads to terms.³³ Cameron's statement, however, was disputed by the New Jersey railroad and transportation company, which asserted that "prices between New York and Baltimore have, with the exception of the first regiment carried, been according to the tariff for passengers as furnished by the government and less than the tariff for freight."³⁴ The charge of extortion was also denied by the Philadelphia, Wilmington and Baltimore railroad.³⁵ Mr. Felton, president of this road, charged that this change of route was due to Cameron's desire to benefit roads in which he was financially interested.³⁶

Scott's method of paying the railroads the same rates they charged others was undoubtedly the best preliminary arrangement which could have been made. The only other thing which could have been done would have been to postpone settlement till a future date. Such action might have been unfortunate and would probably have antagonized the business men at a time when the government most needed their support. Congress, however, seems to have considered Scott's action worthy of in-

³² *Ibid.*, third series, 1: 751.

³³ *Ibid.*, third series, 1: 705. The second regiment of Rhode Island volunteers was ordered to be brought via New Jersey Central, East Pennsylvania and Northern Central railroad companies. *Ibid.*, third series, 1: 228.

³⁴ *Report of the directors of the New Jersey railroad and transportation company to the stockholders* (Newark, 1862), 7.

³⁵ *Twenty-fifth annual report of the president and directors to the stockholders of the Philadelphia, Wilmington and Baltimore railroad company* (Philadelphia, 1863), 10.

³⁶ *Private and official correspondence of Gen. Benjamin F. Butler, during the period of the civil war*, edited by Jesse Ames Marshall ([Norwood, Mass.], 1917), 1: 171.

vestigation,³⁷ and at least one individual considered him a "corrupt lobby-jobber."³⁸

Cameron retired as secretary of war in January, 1862. *Harper's weekly* in comment said, "The public will not regret the change, nor is it believed the country will be the loser by it."³⁹ Scott, however, remained in office until the following June, being sent at this time to investigate conditions in the west.⁴⁰

One of the first acts of Stanton was the issuing of an invitation to the chief officers of the railroads in the loyal states to meet in Washington on February 20.⁴¹ This convention met as called, and it was said that seven hundred million of railroad interest out of the nine hundred million of such interest in the loyal states was represented by the delegates.⁴² A committee was appointed by the delegates which reported a schedule of rates immediately adopted by the convention. The rate for passengers was fixed at two cents a mile, eighty pounds of baggage being allowed to each soldier. The government was given a discount of 10 per cent on the rates for freight which was to be classified according to the schedules of the four trunk lines, and a maximum charge was fixed. It was provided that the full length should govern whether the freight passed over one or many roads, the distance in each case being determined by the shortest line. It was made the duty of each company to furnish the secretary of war and the quartermaster general with copies of their through and local tariffs and to notify them of any changes. A committee was to be appointed to coöperate with the government and to take such action as was necessary to produce harmonious results.⁴³ The agreement reached at this

³⁷ *House executive documents*, 37 congress, 2 session, 1: no. 18.

³⁸ *Diary of Gideon Welles, secretary of the navy under Lincoln and Johnson*, with an introduction by John T. Morse, Jr. (Boston, 1911), 1: 127.

³⁹ *Harper's weekly*, January 25, 1862.

⁴⁰ William B. Sipes, *The Pennsylvania railroad: its origin, construction, condition and connections. Embracing historical, descriptive, and statistical notices of cities, towns, villages, stations, industries, and objects of interest on its various lines in Pennsylvania and New Jersey* (Philadelphia, 1875), 14.

⁴¹ *War of the rebellion: a compilation of the official records of the union and confederate armies*, third series, 1: 889.

⁴² *New York Semi-Weekly Tribune*, February 21, 1862.

⁴³ *War of the rebellion: a compilation of the official records of the union and confederate armies*, third series, 2: 838.

time went into operation May 3, 1862⁴⁴ and remained in force for the remainder of the war.⁴⁵ The convention also recommended that railroads whose expenses were increased by reason of being in or near the seat of the war should receive additional compensation.⁴⁶ This idea was carried out in the case of the Baltimore and Ohio, the Baltimore and Washington and some roads in Missouri, which were exempted from the operation of the reduced tariff.⁴⁷

Another point of contact between the railroads and the government was in the case of the draft as it affected railroad employees. The Pennsylvania railroad complained that the draft in 1865 added an indiscriminate drain upon its forces and stated that "for a time it was impossible to procure even raw recruits in sufficient numbers."⁴⁸ The question whether all railroad employees should be exempted really presented a complex situation. In the present war, with the railroads under government operation and when their continued and efficient management is absolutely essential to the conduct of the war and the welfare of the country, there is no question about the right of the government to exempt railroad employees. In the civil war, however, the government was exercising little control over the roads. Some of them, for example the Michigan Central, were doing practically nothing in the way of government transportation, and, in the case of the others, the work done for the government, while it was important to the government, was purely incidental so far as the railroads were concerned.

When the draft was ordered in 1862, Stanton was besieged with telegrams from various railroad presidents asserting the importance of the railroads to the conduct of the war and asking that all their employees be exempted. Stanton, in reply to such a telegram from Scott, who had assumed the management of the Pennsylvania railroad, thought that some exception might be made, but considered that any order in regard to the railroads "ought to be limited to actual necessity or it may provoke hos-

⁴⁴ *Ibid.*, third series, 2: 839-841.

⁴⁵ *Ibid.*, third series, 5: 526.

⁴⁶ *Ibid.*, third series, 2: 838.

⁴⁷ *Ibid.*, third series, 2: 794.

⁴⁸ *Eighteenth annual report of the board of directors of the Pennsylvania railroad to the stockholders* (Philadelphia, 1865), 11.

tility in the public mind.”⁴⁹ He also asked Scott for suggestions as to the form of the order.⁵⁰ Scott in reply proposed the exemption of all employees who had been in the service of a railroad three months previous to the last call of the president for troops, provided that such employees should enroll themselves under the military rules of the government and drill at least once a week. They would also be subject to special call in case of emergency.⁵¹ Stanton, however, had already made up his mind that none but locomotive engineers in actual employment at the time of the order should be exempted,⁵² and this was the plan finally adopted.⁵³

At the time of the second draft in 1865, Scott made an interesting proposal to the government. He asked to “have the privilege of furnishing substitutes at Philadelphia, Pittsburg, or Harrisburg who when accepted shall release parties we may designate no matter in what district enrolled.” As recompense for this privilege the substitutes were to be furnished for three years service although the draft was for one year.⁵⁴ This proposal was approved by the secretary of war,⁵⁵ but there is no evidence in the reports of the railroad company that any money was spent on substitutes.

The railroads shared the general burden of war taxation. The act of July 1, 1862, subjected them to a three per cent duty on gross receipts from passengers but gave them the right to add the tax to the rates of fare. A duty of three per cent was also imposed on all dividends or interest on bonds.⁵⁶ In most cases the roads were also subjected to state taxes. The Old Colony and Newport railroad complained that its town, state, and United States taxes for 1867 amounted to \$105,465.91, nearly one-fourth of the net profits of the road.⁵⁷ The Pennsylvania railroad paid in the years 1863 to 1865 inclusive \$763,816.19 as United States

⁴⁹ *War of the rebellion: a compilation of the official records of the union and confederate armies*, third series, 2: 310.

⁵⁰ *Ibid.*

⁵¹ *Ibid.*, third series, 2: 322.

⁵² *Ibid.*, third series, 2: 294.

⁵³ *Ibid.*, third series, 2: 322.

⁵⁴ *Ibid.*, third series, 4: 1049.

⁵⁵ *Ibid.*

⁵⁶ *United States statutes at large*, 12: 468.

⁵⁷ *Fifth annual report of the directors of the Old Colony and Newport railway company to the stockholders* (Boston, 1868), 7.

excise tax.⁵⁸ This was more than balanced, however, by the \$3,390,848.45 earned from the transportation of troops.⁵⁹

In addition to the relationship between the government and the railroads, the general effect of the war upon the railroads must be considered. The panic of 1857 had not only stopped railroad construction but it had also reduced the earnings of the roads to the minimum. In the fall of 1859, business conditions appear to have started to pick up. The Michigan Central, for example, reported that its earnings for May, 1860 showed an increase of \$31,000 over the same month of the previous year. This increase was said to be due to the natural progress toward recovery in the western states.⁶⁰ It may have been an indication that trade was beginning to turn from its old course down the Mississippi river into the new channels which were later to absorb it.

The first effect of the war was a slight diminution in the earnings of the railroads, particularly those from passenger traffic. The smaller roads suffered most. The Boston and Worcester railroad found it necessary to reduce the number of its employees from five hundred and sixty-five to five hundred and nine. The time in the workshops was reduced from ten to nine hours a day with a corresponding reduction in the pay of the men.⁶¹ The recovery, however, was rapid and by 1864 all the larger roads, in fact practically all the roads which had been wisely located in natural channels of trade, doubled or tripled their earnings. The total income of all the railroads of Massachusetts increased from nine million dollars in 1861⁶² to eighteen millions in 1865.⁶³ The railroads in Pennsylvania totaled receipts in 1860 of twenty-one million which rose in 1865 to sixty-five million.⁶⁴ The roads in the west likewise benefited from the increase in trade. The Illinois Central earned \$2,626,329 in 1861

⁵⁸ Compiled from the *Reports of the Pennsylvania railroad* for the years 1863 to 1865 inclusive. Later reports do not give these figures.

⁵⁹ *Ibid.*, 1861-1866.

⁶⁰ *Report of the directors of the Michigan Central railroad company to the stockholders* (Boston, 1860), 7.

⁶¹ *Thirty-second annual report of the directors of the Boston and Worcester railroad corporation* (Boston, 1862), 4.

⁶² *Returns of railroad corporations in Massachusetts*, 1861, p. 3.

⁶³ *Ibid.*, 1865, p. 313.

⁶⁴ *Reports of the several railroad and canal companies of Pennsylvania for the year 1865, communicated by the auditor general*, 459.

and \$7,063,425 in 1865.⁶⁵ The Michigan Southern and Northern Indiana railroad was earning \$2,167,280 in 1861 and \$4,826,723 in 1865.⁶⁶

The demand of Europe for western food products was undoubtedly a factor in the increased prosperity of many of the railroads. The following figures show the increase in this traffic in the case of the New York Central railroad.

	Through tonnage eastward. ⁶⁷	
	Vegetable food	Other agricultural products
1860	133,988	5,668
1861	223,179	15,054
1862	287,231	20,054
1863	241,036	35,541
1864	231,494	36,575

The aggregate figures for all the roads in New York state show the same variation with regard to vegetable food and a similar rapid increase in the tonnage of other agricultural products dropping off, however, in 1865.⁶⁸ There is no indication as to what the item "other agricultural products" included but it probably referred to grain since cattle, meat, and lumber were classified separately.

The Pennsylvania railroad apparently did not participate in this trade. Its through tonnage of agricultural products eastward dropped from 16,934,942 in 1861 to 149,981 in 1863, rising to 13,015,249 in 1865. At the same time, however, there was a very great increase in local tonnage.⁶⁹

It may be said in general that the increase of revenues during the war period was not due to any one cause but rather to the general revival of business brought about by the war. The Providence and Worcester railroad is an example of a road which did little in the way of government transportation, and received none of the benefits of the increased European trade, but which, in 1864, announced that it was free from indebtedness,

⁶⁵ Henry V. Poor, *Manual of the railroads of the United States for 1868-1869* (New York, 1868), 353.

⁶⁶ *Eighth annual report of the president and directors of the Lake Shore and Michigan Southern railway company to the stockholders* (Cleveland, 1878), 50.

⁶⁷ *Annual reports of the engineer and surveyor of New York state, 1860-1866.*

⁶⁸ *Ibid.*

⁶⁹ *Reports of the Pennsylvania railroad company for the years 1861 to 1865.*

had added seventy-two freight cars and two engines, expended \$20,000 on track and at the same time paid an eight per cent dividend.⁷⁰

The war also conferred an additional though probably not an appreciated benefit on the railroads by checking, through the increased cost of labor and materials, any extensive new construction. The Boston and Worcester railroad reported that during the year 1864 the cost of labor had increased 28½ per cent, the cost of fuel 64 per cent, and the cost of materials for repairs by an average of 22 per cent.⁷¹ The Pennsylvania railroad also reported "continued advances in wages and in the cost of materials."⁷² The aggregate expenses of all the roads in the state of Pennsylvania jumped from eight million dollars in 1861 to forty-two million in 1865,⁷³ an increase which can be attributed only in part, either to the added business or to the depreciation of the greenbacks.

The natural result of this increased cost of labor and materials was to check railroad building, since the prosperity of the roads would otherwise have induced speculators to plan new roads in this section of the country. The mileage in Massachusetts in 1860 was 1,264 miles. In 1865, it was 1,297 miles, an increase of only thirty-three miles. The increase in mileage in New York was three hundred and twenty miles, most of which was added in 1865. About the same proportion of additional trackage was laid in the middle western states.⁷⁴

The increased expense which the war imposed upon the railroads also led them to postpone repairs with the result that at the close of the war a heavy expenditure was necessary to put the roads in condition. The New York Central, in 1861, spent \$1,632,673 in road maintenance. In 1865, this item had risen to \$4,062,402.⁷⁵ The same large increase in the maintenance ac-

⁷⁰ *Boston Commercial Bulletin*, January 6, 1864.

⁷¹ *Twenty-fifth annual report of the directors of the Boston and Worcester railroad corporation* (Boston, 1865), 4.

⁷² *Eighteenth annual report of the Pennsylvania railroad*, 1865, p. 18.

⁷³ *Reports of the several railroad and canal companies of Pennsylvania for the year 1865, communicated by the auditor general*, 456.

⁷⁴ Poor, *Manual of the railroads of the United States for 1863-1869*, 20.

⁷⁵ *Annual report of the engineer and surveyor of New York state*, 1865, p. 161. Considerable advance was made during the decade along such lines as the use of steel rails, the improvement of the ventilation of passenger cars, and the introduction of

counts of the other roads justifies the conclusion that the roadways were somewhat neglected during the war.

The exercise of government control over the railroads except in case of extreme necessity was, according to the philosophy of the civil war period, an unwarranted interference with private rights. This idea is well brought out in a statement by J. P. Jackson, vice president and general superintendent of the New Jersey railroad and transportation company, in his report to the stockholders. "Many of our railroad companies," he said, "have required full fare for the transportation of troops and extended no free privileges. This is considered to be the true rule of business, for officers are only fiduciaries and should perform the services cheerfully and at liberal rates to the public generally, leaving the stockholders to appropriate their own property in donations and such charitable subscriptions as they may deem proper."⁷⁶

In the present war, the government, by taking over the railroads, has eliminated the problems which were so important in the civil war, the questions of taxation, the drafting of railroad employees, and the regulation of rates for government transportation. It has, however, brought in new problems in connection with the effects the war is producing upon the roads. As in the civil war, the general rise in prices has caused a rise in the cost of labor, and new scales of wages for railroad employees have been established. Then, too, the scarcity of labor and materials is undoubtedly producing the same tendency to limit expenditures on maintenance and repairs. The great problem will come at the close of the present war if the attempt is made to restore the roads to their owners in the same condition in which they were delivered to the government.

HERMON KING MURPHEY

AGRICULTURAL COLLEGE
FARGO, NORTH DAKOTA

Pullman sleeping coaches. These improvements, however, are not related to the war and cannot be considered as war products.

⁷⁶ *Report of the directors of the New Jersey railroad and transportation company* (Newark, 1861), 6.